

**Notice of Allowability**

Application No.

09/751,762

Examiner

Daniel Pan

Applicant(s)

KOTTAPALLI ET AL.

Art Unit

2183

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 03/24/08.
2. ☒ The allowed claim(s) is/are 1,2, 9-11,14-17, 20,21 (claims 3-8,12,13,18,19 have been canceled).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application  |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>attached</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date ____     | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                         |
|  | 9. <input type="checkbox"/> Other ____.  |

/Daniel Pan/  
Primary Examiner, Art Unit 2183

#### Reasons of Allowance/Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Sumit Bhattacharya on 04/24/08.

In response to the amended claims on 03/24/08, enter the amended claims on 03/24/08, and further amend the claims as follow :

- a) cancel claims 5-8 (claims 3-8,12,13,18,19 have been canceled);
- b) claim 9, line 1, replace "claim 5", by --claim 1—
- c) claim 10, line 4, after "pipeline control logic", insert --unit—
- d) claim 10, line 9 (Page 4, line 3 from the top of the amendment), after "an exception and retirement logic", insert --unit—
- e) claim 10, line 10 (Page 4, line 4 from the top of the amendment), after "an exception and retirement logic", insert --unit—
- f) claim 11, line 1, after "pipeline control logic", insert --unit—
- g) claim 15, line 2, after "control logic", insert --unit—
- h) claim 16, line 4, after "including", insert --:--
- i) claim 16, line 7, (Page 5 line 3 from the top of the amendment), after "pipeline control logic", insert --unit—

j) claim 16, line 12, (Page 5 line 8 from the top of the amendment), after "an exception and retirement logic", insert --unit—

k) claim 16, line 14, (Page 5 line 10 from the top of the amendment), after "an exception and retirement logic", insert --unit—

l) claim 17, line 1, after "control logic", insert --unit—

m) claim 21, line 1, after "control logic", insert --unit—

The following is reason for allowance :

None of the prior art of record teaches the combined features of :

a) determining if a stalled operation of a first thread is due to a loading of data from a memory device; and flushing an instruction from said first thread from a pipeline of a processing system after a predetermined number of clock cycles if data is to be loaded from the memory device before executing the instruction, and marking the instruction as a miss and the reschedule of the instruction to be executed in the pipeline (claims 1)

b) a scheduler to pass instructions from a first thread and a second thread to an execution pipeline; a pipeline control logic unit coupled to the execution pipeline to determine if a stalled execution of said first thread is due to a loading of data from a memory device and to flush an instruction from the first thread from the execution pipeline after a predetermined number of clock cycles if data is to be loaded from the memory device before the instruction can be executed and an exception and retirement logic coupled to the execution pipeline, and the instruction marked as a miss is to be detected by the exception and retirement logic unit (claim 10)

c) a memory bus coupled to system memory, a processing system coupled to said memory bus, the processing system including : a scheduler to pass instructions from a first thread and a second thread to an execution pipeline, the pipeline control logic unit coupled to the execution pipeline to determine if a stalled execution of the first thread is due to a loading of data from system memory and to flush an instruction from the first thread from execution pipeline after a predetermined number of clock cycles if data is to be loaded from the system memory before the instruction can be executed and an exception and retirement logic unit coupled to the execution pipeline, and the instruction marked as a miss is to be detected by the exception and retirement logic unit (claim 16).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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*21 Century Strategic Plan*

/Daniel Pan/

Primary Examiner, Art Unit 2183